

CLAIMS

What is claimed is:

- 1 1. A pass transistor device comprising:
2 a source;
3 a drain opposite said source;
4 a body between said source and said drain; and
5 a circuit control network connected between said drain and said source,
6 said circuit control network controlling a potential voltage of said body and
7 providing overvoltage protection to said pass transistor.

- 1 2. The device in claim 1, wherein said circuit control network comprises a
2 body-charging element.

- 1 3. The device in claim 2, wherein said body-charging element comprises a
2 Lubistor.

- 1 4. The device in claim 2, wherein said body-charging element comprises a
2 body- and gate-coupled silicon over insulator (SOI) diode element.

1 5. The device in claim 2, wherein said body-charging element comprises at
2 least one Lubistor.

1 6. The device in claim 2, wherein said body-charging element comprises a
2 silicon over insulator (SOI) metal oxide silicon field effect transistor (MOSFET).

1 7. The device in claim 2, wherein said body-charging element comprises a
2 body- and gate-coupled silicon over insulator (SOI) metal oxide silicon field
3 effect transistor (MOSFET) diode.

1 8. The device in claim 1, wherein said circuit control network comprises a
2 body-limiting element.

1 9. The device in claim 1, wherein said circuit control network comprises a
2 voltage divider network.

1 10. The device in claim 9, wherein said voltage divider includes at least one
2 resistor.

1 11. The device in claim 10, wherein said resistor comprises a buried resistor
2 element.

1 12. The device in claim 10, wherein the resistor comprises a silicon over
2 insulator (SOI) metal oxide silicon field effect transistor (MOSFET).

1 13. The device in claim 1, wherein said circuit control network comprises at
2 least one resistor-capacitor series configured element whose center node is
3 connected to said SOI body of said pass transistor.

1 14. A silicon over insulator (SOI) metal oxide silicon field effect transistor
2 (MOSFET) device comprising:
3 a body;
4 a gate opposite said body;
5 a resistive/capacitor discriminator connected to said gate; and
6 a circuit control network connected to said body, said circuit control
7 network modulating a potential voltage of said body to provide electrostatic
8 discharge (ESD) protection.

1 15. The device in claim 14, wherein said control circuit is connected to said
2 gate.

1 16. The device in claim 14, wherein said control network circuit modulates
2 said potential voltage of said body.

1 17. The device in claim 14, wherein said control network circuit limits said
2 body to a reference voltage.

1 18. The device in claim 14, wherein said control circuit comprises at least one
2 SOI MOSFET.

1 19. The device in claim 14, wherein said control network comprises at least
2 one ESD SOI diode.

1 20. The device in claim 14, wherein said control network circuit comprises at
2 least one body/gate-coupled SOI diode.

1 21. The device in claim 14, wherein said control network comprises n-channel
2 and p-channel SOI MOSFETs, at least two RC discriminators and at least one
3 control circuit network.

1 22. The device in claim 14, further comprising:
2 an input pad connected to said gate;
3 a drain adjacent said gate; and
4 a source opposite said drain.
5 wherein said control network is connected to said input pad and said drain
6 and said source is connected to Vss.